

PARENTAL SMOKING AND OTITIS MEDIA

There are studies which claim to have found an association between exposure to ETS and the occurrence of a relatively common childhood ear condition called otitis media with effusion (OME). However, the reported data are inconsistent, and even contradictory, in nature. For example, while eight studies have reported a statistically significant association between parental smoking and middle ear problems in children,¹⁻⁸ ten studies have reported no statistically significant association.⁹⁻¹⁷

In regard to OME, an inflammation of the eustachian tube that can lead to the accumulation of fluid in the inner ear, a group of Dutch researchers has asserted that "there is little evidence that parental smoking has an effect on the risk for OME," although they noted that "the literature is not consistent."¹¹ Their own study indicated that while the occurrence of OME was not related to exposure to ETS in the home, variables relating to age, season, family size, sibling's history of OME, frequent swimming, and public day care attendance had a "significant effect." A Scottish study which did report an association between parental smoking and OME noted that the prevalence of parental smoking was higher in rented or crowded homes, and in homes affected by dampness or mould growth.¹³ A 1993 study by Rasmussen, et al., while reporting that there was an association between day care attendance and otitis media, suggested that "no association was

2023703155

found between parents' smoking habits and the incidence of protracted SOM [secretory otitis media]."¹⁷ Clearly, these reports suggest there is a need to evaluate additional factors in any study of the potential relationship between OME and parental smoking.

While a couple of studies in 1992 reported an association between parental smoking and otitis media⁷⁻⁸, a 1991 study by Daigler et al. reported that they were "unable to confirm the association between [parental] smoking and otitis" that had been "reported by others."¹⁴ Another group of authors reported that cigarette smoking is more common in households of lower socioeconomic status but that "it is unlikely to be a risk factor for otitis media with effusion, although it may have an association."¹⁵ Similarly, a 1992 study by Rowe-Jones et al. failed to report a statistical association between parental smoking and otitis media with effusion requiring grommet insertion.¹⁶

Other researchers recently acknowledged that questionnaire reports of acute OME may be an inadequate method of determining the incidence of the condition in epidemiological studies.¹⁸ Therefore, until a more accurate method of determining the incidence of OME is found, isolating parental smoking as a cause is seemingly unjustified.

Reports that parental smoking causes otitis media in children are contradicted by studies reporting no association

2023703156

between parental smoking and OME. The methods used in these studies to estimate exposure to ETS and the incidence of OME are seemingly inaccurate. Thus, the role, if any, of parental smoking has yet to be determined.

2023703157

REFERENCES

1. Kraemer, M., Richardson, M.A., Weiss, N.S., Furukawa, C.T., Shapiro, G.G., Pierson, W.E., and Bierman, C.W., "Risk Factors for Persistent Middle Ear Effusions: Otitis Media, Catarrh, Cigarette Smoke Exposure, and Atopy," Journal of the American Medical Association 249(8): 1022-1025.
2. Black, N., "The Aetiology of Glue Ear-A Case Control Study," International Journal of Pediatric Otorhinolaryngology 9: 121-133, 1985.
3. Iversen, M., Birch, I., Lundqvist, G.R., and Elbrond, O., "Middle Ear Effusion in Children and the Indoor Environment," Arch Env Health 40(2): 74-79, 1985.
4. Pukander, J., Luotonen, J., Timonen, M. and Karma, P., "Risk Factors Affecting the Occurrence of Acute Otitis Media Among 2-3-Year-Old Urban Children," Acta Otolaryngol 100(3/4): 260-265, 1985.
5. Reed, B.D., and Lutz, L.J., "Household Smoking Exposure--Associations with Middle Ear Effusions," Fam Med 20(6): 426-430, 1988.
6. Strachan, D.P., Jarvis, M.J., Feyerabend, C., "Passive Smoking, Salivary Cotinine Concentrations, and Middle Ear Effusion in 7 Year Old Children," British Medical Journal 298: 1549-1552, 1989.
7. Etzel, R.A., Pattishall, E.N., Haley, N.J., Fletcher, R.H., and Henderson, F.W., "Passive Smoking and Middle Ear Effusion Among Children in Day Care," Pediatrics 90(2): 228-232, 1992.
8. Maw, A.R., Parker, A.J., Lance, G.N., and Dilkes, M.G., "The Effect of Parental Smoking on Outcome After Treatment for Glue Ear in Children," Clin Otolaryngol 17: 411-414, 1992.
9. Fleming, D.W., Cochi, S.L., Hightower, A.W., Broome, C.V., "Childhood Upper Respiratory Tract Infections: To What Degree is Incidence Affected by Day-Care Attendance?" Pediatrics 79(1): 55-60, 1987.
10. Kallail, K.J., Rainbolt, H.R., Bruntzel, M.D., "Passive Smoking and Middle Ear Problems in Kansas Public School Children," J Commun Disord 20: 187-196, 1987.

10755686

2023703158

-
11. Zielhuis, G.A., Heuvelmans-Heinen, E.W., Rach, G.H. and Van Den Broek, P., "Environmental Risk Factors for Otitis Media with Effusion in Preschool Children," Scandinavian Journal of Primary Health Care 7(1): 33-38, 1989.
 12. Hinton, A.E., "Surgery for Otitis Media with Effusion in Children and Its Relationship to Parental Smoking," J Laryngol Otol 103(6): 559-561, 1989.
 13. Strachan, D.P., "Impedance Tympanometry and the Home Environment in Seven-Year-Old Children," The Journal of Laryngology and Otology 104: 4-8, 1990.
 14. Daigler, G.E., Markello, S.J., and Cummings, K.M., "The Effect of Indoor Air Pollutants on Otitis Media and Asthma in Children," Laryngoscope 101: 293-296, 1991.
 15. Barr, G.S., and Coatesworth, A.P., "Passive Smoking and Otitis Media with Effusion," British Medical Journal 303: 1032-1033, 1991.
 16. Rowe-Jones, J.M., and Brockbank, M.J., "Parental Smoking and Persistent Otitis Media with Effusion in Children," International Journal of Pediatric Otorhinolaryngology 24: 19-24, 1992.
 17. Rasmussen, F., "Protracted Secretory Otitis Media. The Impact of Familial Factors and Day-Care Center Attendance," International Journal of Pediatric Otorhinolaryngology 26: 29-37, 1993.
 18. Alho, O.P., "The Validity of Questionnaire Reports of a History of Acute Otitis Media," American Journal of Epidemiology 132(6): 1164-1170, 1990.

10755686

2023703159